Inspect Once, But Think Twice

By AM1(AW) Scott Carr

As a QAR, I'm expected to be the adult supervision, the person who asks all the hard questions and is counted on to set the standard for maintenance excellence. Nevertheless, it's more than just inspections and audits. It's critiquing current procedures and submitting changes to streamline processes, not to mention applying good ol' common sense.

Recently, an odd discrepancy was discovered on one of our E-6Bs. When the horizontal stab trim was activated, the rudder-trim handle also would move about one inch left or right. These totally independent systems have no physical or electrical interaction. The airframes branch troubleshot the grip in an area just forward of the tail section where all flight-control cables are rigged. They found a loose bracket and control-column chain.

After tightening the bracket and the stab-trim chain under the center control column, the rudder-handle movement was reduced to a minute amount. Here's where the little voice should have been asking, "Why is there any movement at all?" However, the entire rigging op-checked within published limits. The manuals did not say anything about minor movement of this type, so it was left alone because the tensions, throws, and limits were within standards.

The shop tightened the flight-control cables, and the aircraft did a functional check flight. The crew returned with the same gripe: The rudder-trim handle moved when horizontal stab trim was applied.

The airframes branch reexamined the cables, looking for anything out of the ordinary, such as skipped pulleys or binding controls. Their technicians pulled up the floorboards in three different areas, as the book suggested, and this is where good judgment finally came into play. The technicians removed a few more floorboards that the manual did not specify and decided to inspect the entire cable run—a move that revealed the culprit. The stab-trim cable had wrapped around the rudder-trim cable and caused the troubling rudder-trim-handle movement. If undiscovered, the cables would have worn, frayed and broken, ending in the loss of aircraft-trim capabilities and possibly the loss of aircrew and aircraft.

The big lesson learned is the modified adage, "If something doesn't feel, look, or act right, you must ask yourself why not." I learned not to stop with the maintenance manual because, as we found, a little extra troubleshooting can make the difference. The books are not always complete, and further research may be required to find the solution to a problem.

We submitted a TPDR that called for removing all floorboards for similar discrepancies. The extra effort was time spent wisely and ensured the aircraft was safe to fly, which is the crucial part of aircraft maintenance.

Petty Officer Carr is an airframes QAR at VQ-3.

These twisted cables can't be a good thing.

It's amazing what can be found beneath the floorboards.

"World-class organizations do not tolerate preventable accidents." –Donald Rumsfeld, SecDef